REMARKS

Prior to entry of this amendment, Claims 1-33 were pending in this application. By this amendment, Claims 1-2, 4-6, 12-14, 17-18, 22-28 and 30 have been amended. The claim amendments were made merely to use more consistent terminology throughout the claims and clarify features that were disclosed and claimed in the application as originally filed. The amendments to the claims do not add any new matter to this application.

No new claims are added and no claims are cancelled. All issues raised in the Office Action mailed December 10, 2004 are addressed hereinafter.

I. Summary Of The Rejections

Claims 1-5 and 8-14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,195,694 to Chen et al. (*"Chen")* in view of U.S. Pat. No. 6,571,201 to Royal, Jr. et al. (*"Royal"*), and further in view of Malik, et al. (5,832,503), (*"Malik"*).

Claims 6-7 and 15-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Chen*, *Royal*, and *Malik*, further in view of U.S. Pat. No. 5,790,789 to Suarez. (*"Suarez"*)

Claims 17-31 stand rejected on the same rationale as claims 1-16.

Claims 32-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 6,775,701 to Pan et al. (*"Pan"*) in view of *Malik.*

The rejections are herein respectfully traversed.

II. Claims 1-31

Independent Claims 1, 24, 26, 27, 30

Independent claims 1, 24, 26, 27 and 30 are similar, and representative claim 1 is discussed in detail herein. The discussion of claim 1 applies to claims 24, 26, 27 and 30.

Claim 1 recites the following steps:

- receiving a request from the network device to provide configuration information;
- retrieving a template describing a device configuration, **wherein the template comprises symbolic references to one or more parameters that may receive values specific to a particular device**;
- retrieving**, based on the symbolic references,** one or more values of parameters specific to the network device;
- creating and storing a device-specific instance of the configuration information based on the template and the values of parameters specific to said network device; said configuration information conforming to an Extensible Markup Language Document Type Definition (XML DTD) and comprising one or more XML tags that delimit a beginning and an ending of the configuration information

As the Office Action corrects notes in paragraph 4, "*Chen* does not explicitly teach the retrieved template comprises symbolic references to one or more parameters that may receive values specific to a particular device." The Office Action asserts that *Malik* teaches this recited feature, stating that "configuration manager 18 retrieves a template (i.e. retrieves a list of attributes for a device of a certain model type as item 40 in Fig. 3); obtains the values of certain attributes (i.e. obtains data which define the characteristics for the network device being modeled as item 42 in Fig. 3)."

However, the cited portions of *Malik* do not teach a template that comprises **symbolic references to one or more parameters**, and retrieving, **based on the symbolic references,** values of parameters specific to the device being configured, as featured by claim 1.

The claimed invention is directed to a method of generating a device-specific instance of configuration information from a configuration template that includes symbolic references to parameters by instantiating the template with parameters specific to the network device being configured. The configuration templates used in example embodiments are described at Page 33,

line 22 – Page 37, line 22. In particular, the specification states: "Each template 210 contains a configuration template comprising one or more CLI strings, each having zero or more parameters that may be specified for a particular device ("instantiated")." (Page 34, lines 7-9). In one embodiment, a complete directory distinguished name of an object and an attribute name is used to provide a symbolic reference to a parameter.

An example of a configuration template with symbolic references to parameters is shown in the Example Template of Table 13 (Page 34, line 24- Page 36, line 4.) As shown on Page 35, symbolic references to one or more parameters are shown as URLs identifying an LDAP directory server at IP address 10.10.1.1, and attribute names "IOSipaddress", "IOSsubnetmask" (lines 20-22), "IOSipAccess" (lines 39-40), and "IOSipxAccess" (lines 42-43).

Malik does not teach a template with symbolic references to parameters, much less retrieving values of the parameters specific to the network device based on the symbolic references, as featured in claim 1. The Office Action appears to assert that a list of attributes for a device of a certain model type as shown by item 40 in Fig. 3 teaches a template comprising symbolic references to one or more parameters. However, item 40 in Fig. 3 contains **no symbolic references to parameters**. As *Malik* teaches at Col. 3, lns "[w]hen creating a template, the configuration manager provides the user with a list of all readable/writable and non-shared attributes for a model type." (*Malik*, lns 27-32). A template in *Malik* is merely a list of all attributes for a model type.

Furthermore, in *Malik,* a "user then selects the attributes needed for the template... and [t]he configuration manager then captures the values of the [selected] attributes." (*Malik,* lns 33-40). Claim 1 requires "retrieving, based on the symbolic references, one or more values of parameters specific to the network device." Capturing values for user-selected attributes does not teach retrieving values for parameters based on symbolic references.

It is therefore respectfully submitted that independent claims 1, 24, 26, 27 and 30 are not taught or suggested by the cited prior art.

Dependent claims 2-16, 25 and 31 all include the limitations of the independent claims by virtue of their dependence. It is therefore also respectfully submitted that claims 2-16, 25 and 31 are patentable over the cited art for at least the reasons set forth herein with respect to claim 1. Furthermore, these claims recite additional limitations that independently render then patentable over the cited art. In view of the patentability of the independent claims, only some of the dependent claims are further argued at this time to expedite prosecution.

Independent Claims 17 and 28; dependent claims 4-6 and 18-23

The Office Action asserts that claims 17-31 recites limitations similar to claims 1-16, and rejects these claims under the same rationale.

Independent claims 17 and 28, and dependent claims 4-6 contain similar limitations, and representative claim 4 is discussed in detail herein. The discussion of claim 4 applies to claims 5-6, 17, and 28 as well as claims 18-23, dependent on claim 17.

Claim 4 recites:

> - syntax checking **only configuration commands of** the device-specific instance of configuration information determine whether the configuration commands therein **conform to a command language that is understood by the network device**.

In the rejection of claims 4-5, the Office Action takes Official Notice on Page 6 that "the concepts and advantages of checking and ensuring program code is syntactically correct before executing the code are well known and expected in the art." The Office Action further notes that "[i]t would have been obvious ... to include syntax checking at the network device ... since such methods were conventionally employed in the art to avoid the execution of code that is not syntactically correct." However, claim 4 features syntax-checking **command configuration commands**, not program code.

Furthermore, as is described at Page 25, line 21 – Page 26, line 11 of the present specification, in one embodiment the configuration service first determines whether the XML configuration information is well-formed and that the text of the XML configuration information is syntactically correct before providing the XML configuration information to the network device. When the XML configuration information is received by the network device, the network device then checks for the syntactic correctness of the embedded commands. "Carrying out the checks of well-formedness and syntactic correctness before deployment of the configuration information is useful in placing the burden of a potentially intensive computation load on the Configuration Server, rather than the device." (Page 14, lines 21-24). The network device then parses out the CLI commands from the XML configuration information and performs a syntax check of just the configuration commands.

It is not generally known to those skilled in the art, nor do the cited references teach or suggest, that a network device perform syntax checking of **only** the configuration commands in an instance of XML configuration information that has been previously checked for XML well-formedness and syntactic correctness by a configuration server before being passed to the network device, thereby lessening the syntax checking burden on the network device. The network device only checks the configuration commands, not the XML syntax. This approach is a significant departure from the conventional practice of checking all aspects of the XML.

Claims 4-5 have been amended to depend from claim 2, which features testing XML well-formedness at the configuration server, and to make explicit that only configuration commands are syntactically correct at the device. Similar amendments have been made to claims 6, 17, 18 and 28.

Claims 18-23, dependent on independent claim 17, all include the limitations of claim 17 by virtue of their dependence. It is therefore also respectfully submitted that claims 18-23 are

patentable over the cited art for at least the reasons set forth herein with respect to claims 4 and 17. Furthermore, claims 18-23 recite additional limitations that independently render then patentable over the cited art. In view of the patentability of the independent claims, only some of these dependent claims are further argued at this time to expedite prosecution.

Claims 9-11 and 19-21

Dependent claims 9-11 and 19-21 recite that the request from the network device includes a unique identifier of the network device. Paragraph 8 of the Office Action asserts that *Malik* teaches "the configuration manager is capable of capturing attribute values and instance ID, i.e., unique identifier." However, the instance ID of *Malik* identifies an instance of an *attribute*, not a network device. (See Malik Col. 6, lns 37-38; Col. 7, lns 60-65; Col. 10, lns 25-37.)

As the current specification describes at Page 13, lines 2-25, for example, when the network device issues a HTTP get request to the Configuration Service, it specifically provides its token to uniquely identify itself. The unique identifier is used by the Configuration Service to locate a configuration template associated with the network device and locate parameter values specific to the network device. An attribute instance does not uniquely identify a network device and provide the information needed to locate a configuration template and parameter values specific to the network device.

None of the cited references teach or suggest including a unique identifier of the *network device* in a configuration request. Therefore, claims 9-11 and 19-21 are patentable over the cited art.

Claims 12-13, 22, 25 and 31

As is known to those skilled in the art, Directory Services, such as directory accessed through Lightweight Directory Access Protocol (LDAP), distribute information among many

different servers in the form of objects. Each folder in the Directory managed by the Directory Server represents a "Container Object", which holds other objects. Information about an object is retrieved by specifying the object's distinguished name and any desired attributes.

Claims 12-13, 22, 25 and 31 feature retrieving configuration templates and parameters values for a specific device from objects and container objects provided by a directory service. As described in the specification from Page 33, line 22 – Page 39, line 23, in one embodiment, Device objects in a Directory specify a configuration template associated with a device, and configuration templates include symbolic references to parameters for which values are retrieved through container objects in the Directory.

Paragraph 9 of the Office Action asserts that the "model types" disclosed in *Malik* teach container objects, citing Col. 2, lines 14-30. However, the cited section merely states that model type has an associated set of attributes. *Malik* further states at Col. 2, lines 38-42 that "a model type is analogous to a "class" in object-oriented terminology." A container object as used in directory services is not equivalent to an object-oriented class.

None of the cited references teach or suggest any type of directory service container objects, much less a container object associated with a network device and containing directory objects that include values for parameters of a configuration template. Therefore, claims 12-13, 22, 25 and 31 are patentable over the cited art.

III. Claims 32-33

Claims 32-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Pan* in view of *Malik*. The rejection is herein respectfully traversed.

Claim 32 is directed to configuring a computer program application to use network topology information, as described for an embodiment in the present specification at Page 46.

Claim 32 recites "receiving a request for **network topology information** from the computer program application" that is being configured to use the network topology information. Paragraph 16 of the Office Action asserts that Col. 2, lines 48-50 of *Pan* teaches this limitation. However, the cited section of *Pan* only teaches that a network resource manager received a *service reservation* from service agent running on a network device. A "service reservation" as used in *Pan* includes a request for a particular network service, such as bandwidth. (*Pan*, Col. 3, lines 1-5). A request for a network *service* is completely different than a request for network *topology information*, as a request for a service is a request for some type of action, while a request for information is just that – just a request for information, and not a request for some type of action.

None of the cited references teach or suggest any type of request for network topology information. Therefore, claims 32-33 are patentable over the cited art.

IV. Conclusion

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a formal Notice of Allowance is believed next in order, and that action is most earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application. Please charge any shortages in fees to Deposit Account No. 50-1302.

Respectfully submitted,
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Dated: March 21, 2005

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